[Name of Document] SPECIFICATION

[Title of the Invention] COMPOSITION, ORGANIC CONDUCTIVE LAYER INCLUDING COMPOSITION, METHOD FOR MANUFACTURING ORGANIC CONDUCTIVE LAYERS, ORGANIC EL ELEMENT INCLUDING ORGANIC CONDUCTIVE LAYER, METHOD FOR MANUFACTURING ORGANIC EL ELEMENTS, SEMICONDUCTOR ELEMENT INCLUDING ORGANIC CONDUCTIVE LAYER, METHOD FOR MANUFACTURING SEMICONDUCTOR ELEMENTS, ELECTRONIC DEVICE, AND ELECTRONIC APPARATUS

[Claims]

[Claim 1] A composition containing an organic conductive material and at least one species of solvent, wherein the changing rate of the viscosity is within a range of ±5% when 30 days have passed after the preparation.

[Claim 2] The composition according to Claim 1, wherein the solvent contains a glycol medium.

[Claim 3] The composition according to Claim 2, wherein the content of the glycol medium in the solvent ranges from 40 to 55 percent by weight.

[Claim 4] The composition according to Claim 2, wherein the glycol medium includes diethylene glycol and a mixture containing the same.

[Claim 5] The composition according to Claim 2, wherein the glycol medium includes monoethylene glycol and a mixture containing the same.

[Claim 6] The composition according to Claim 2, wherein the glycol medium includes triethylene glycol and a mixture containing the same.

[Claim 7] The composition according to Claim 1, wherein the organic conductive material includes polythiophene derivatives.

[Claim 8] The composition according to Claim 1, wherein the organic conductive material includes a mixture of polydioxythiophene and polystyrene sulfonic acid.

[Claim 9] The composition according to Claim 1, wherein the organic conductive material includes a mixture of polyaniline and polystyrene sulfonic acid.

[Claim 10] The composition according to Claim 2, wherein the solvent contains an acetylenic glycol surfactant.

[Claim 11] The composition according to Claim 10, wherein the content of the acetylenic glycol surfactant in the solvent ranges from 0.01 to 0.1 percent by weight.

[Claim 12] The composition according to Claim 10, wherein the acetylenic glycol surfactant has a boiling point that is less than or equal to that of the medium as well as the surfactant contained in the solvent.

[Claim 13] The composition according to Claim 10, wherein the acetylenic glycol surfactant includes 3,5-dimethyl-1-octyne-3-ol.

[Claim 14] The composition according to Claim 1, wherein the composition is subjected to degassing treatment.

[Claim 15] The composition according to Claim 14, wherein the degassing treatment is performed at a vacuum pressure that is less than or equal to the saturation vapor pressure of water.

[Claim 16] The composition according to Claim 14, wherein before the degassing treatment, the composition contains an amount of the medium vaporized in the degassing treatment in advance.

[Claim 17] An organic semiconductive layer comprising a composition according to any one of Claims 1 to 16.

[Claim 18] A method for manufacturing organic conductive layers, comprising an application step of applying a composition to different portions by an inkjet process, the composition being set forth in any one of Claims 1 to 16.

[Claim 19] The organic conductive layer-manufacturing method according to Claim 18 further comprising a drying step of removing a solvent after the application step.

[Claim 20] The organic conductive layer-manufacturing method according to Claim 19, wherein the drying step is performed in a vacuum atmosphere.

[Claim 21] The organic conductive layer-manufacturing method according to Claim 20, wherein the drying step is performed at a pressure of 1.333×10^{-3} Pa or less and a temperature substantially equal to room temperature.

[Claim 22] The organic conductive layer-manufacturing method according to Claim 19 further comprising a heating step of performing thermal treatment at 100°C or more after the drying step.

[Claim 23] The organic conductive layer-manufacturing method according to Claim 22, wherein a heat source used in the heating step includes infrared rays.

[Claim 24] An organic EL element comprising a hole injection/transport layer comprising the organic conductive layer according to Claim 17.

[Claim 25] A method for manufacturing organic EL elements, comprising a step of forming hole injection/transport layers each comprising the organic conductive layer according to Claim 17 by an inkjet process.

[Claim 26] An electronic device comprising at least the organic EL element according to Claim 24 and a circuit for driving the organic EL element.

[Claim 27] An electronic apparatus comprising the electronic device according to Claim 26.

[Claim 28] An organic semiconductor element comprising a source, a drain, a gate or wiring lines, which are conductive portions included in an integrated circuit, each comprising the organic conductive layer according to Claim 17.

[Claim 29] A method for manufacturing organic semiconductor elements, comprising a step of forming a drain, a gate or wiring lines, which are conductive portions included in an integrated circuit, by an inkjet process using the organic conductive layer according to Claim 17.

[Detailed Description of the Invention]

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[Technical Field of the Invention]

The present invention relates to a composition for forming conductive layers included in electronic devices, an organic conductive layer including such a composition, a method for manufacturing organic conductive layers, an organic EL element including the organic conductive layer, a method for manufacturing organic EL elements, a semiconductor element including the organic conductive layer, a method